

## CLAIMS

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1. Liquid spraying apparatus comprising a spray gun (101) including a body (102) provided with a trigger mechanism (105) connected to a  
5 needle, a spray head (150;250;350;450;550) including a body (158) connected at a rear end to the spray gun body (102) and further including a spray nozzle (153) at a front end, a liquid reservoir (156;256;356;456;540;547) connected to the spray head body (158) for supplying liquid to the spray nozzle (153) in response to actuation of the  
10 trigger mechanism (105) such that liquid from the reservoir (156;256;356;456;540;547) is delivered to the spray nozzle (153) through the spray head body (158) without passing through the spray gun body (102), air outlets (173;273;373;473;573) arranged on opposite sides of the spray nozzle (153) to provide air streams directed inwardly into liquid  
15 dispensed from the spray nozzle (153), and the spray head body (158) and the spray gun body (102) are provided with mateable non-threaded formations (152) that are engageable to secure the spray head body (158) to the spray gun body (102), the formations (152) being releasable to detach the spray head body (158) from the spray gun body (102),  
20 characterised in that the spray gun body (102) is connected to and disconnected from the spray head body (105) together with the trigger mechanism (105) and needle, and the air outlets (173;273;373;473;573) are provided on the spray head (150;250;350;450;550) at the front end of the spray head body (158) such that the air outlets (173;273;373;473;573)  
25 and spray nozzle (153) are connected to and disconnected from the spray gun body (102) together with the spray head body (158).

2. Apparatus according to claim 1 wherein, the mateable formations (152) form a bayonet type connection.

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3. Apparatus according to any one of the preceding claims wherein, the spray head (150;250;350;450;550) is connectable to a remote reservoir.

5 4. Apparatus according to claim 3 wherein, a flexible delivery line (545) is provided between the reservoir and the spray head (150;250;350;450;550).

10 5. Apparatus according to claim 4 wherein, the delivery line (545) includes a manually operable valve to close the delivery line when disconnected from the spray head ((150;250;350;450;550).

15 6. Apparatus according to claim 1 or claim 2 wherein, the reservoir (156;256;356;456;540;547) is mounted on the spray head (150;250;350;450;550).

20 7. Apparatus according to claim 6 wherein, a releasable connection is provided between the reservoir (156;256;356;456;540;547) and the spray head (150;250;350;450;550) such that the reservoir (156;256;356;456;540;547) can be detached from the spray head (150;250;350;450;550).

25 8. Apparatus according to claim 7 wherein, the connection is a bayonet type connection.

9. Apparatus according to any one of the preceding claims wherein, the reservoir (540) is re-usable.

30 10. Apparatus according to any one of claims 1 to 9 wherein, the reservoir (156;256;356;456;547) is disposable and can be discarded after use.

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11. Apparatus according to any one of the preceding claims wherein, the reservoir (547) is collapsible as liquid is withdrawn in use.
- 5 12. Apparatus according to any one of the preceding claims wherein, the spray nozzle (153) is adapted to atomise the liquid to form a spray.
13. Apparatus according to claim 12 wherein the spray nozzle (153) provides a stream of compressed air concentric with the liquid emerging  
10 from the spray nozzle (153).
14. Apparatus according to any one of the preceding claims wherein, the air outlets (173;273;373;473;573) producing inwardly directed air streams are provided by a pair of horns (173;273;373;473;573) projecting  
15 forwardly of an outlet (157a;257a;357a;457a;557a) for the liquid emerging from the spray nozzle (153).
15. Apparatus according to claim 14 wherein, the horns (173;273;373;473;573) are detachable for adapting the spray nozzle (153)  
20 for dispensing different liquids.
16. Apparatus according to claim 15 wherein, a set of interchangeable horns is provided for releasable connection to the spray head (150;250;350;450;550) to change the atomisation parameters or spray  
25 pattern.
17. Apparatus according to any one of the preceding claims wherein, the needle of the trigger mechanism (105) closes a bore (157) through the spray head (150) to prevent dispense of liquid from the spray nozzle (153)  
30 and is retracted to open the bore (157) when the trigger mechanism (105) is actuated to allow dispense of liquid from the spray nozzle (153).

18. Apparatus according to any one of the preceding claims wherein, the spray gun is of the gravity feed, pressure feed or suction feed type.

5 19. Apparatus according to claim 1 wherein means (173;273;373;473;573) is provided for adjusting one or more of the inwardly directed air streams to control the spray characteristics.

10 20. A spray head (150;250;350;450;550) for use with a spray gun (101), the spray head (150;250;350;450;550) having a body (158) with a bore (157) extending from a rear end of the body (158) to an outlet (157a) at the front end of the body (158) to receive a needle connected to a trigger mechanism on the spray gun (101) to control dispense of liquid from the outlet (157a), the rear end of the body (158) having a non-  
15 threaded formation (152) to connect releasably the spray head (150;250;350;450;550) to the spray gun (101), and the body (158) being connectable to a reservoir ((156;256;356;456;540;547) to supply liquid to the spray head (150;250;350;450;550) characterised in that the body (158) is connectable to and disconnectable from the spray gun (101) together  
20 with a pair of air holes (173;273;373;473;573) arranged at the front end of the body (158) on opposite sides of the outlet (157a) to provide air streams directed inwardly into liquid dispensed from the outlet (157a).